

I CLAIM:

1. A combination of support post assembly and tool members, said combination being capable of providing a selected tool member from a plurality of tool members for use of said tool member in a machine operation, said combination comprising:

a support post adapted for rotation about a longitudinal axis of said post during use of said combination;

a plurality of tool members each pivotally attached to said post and adapted to pivot from a first position used for storage to a working position where the respective tool member extends outwardly in a substantially radial direction from the support post; and

a movable actuating member capable of selectively pivoting any one of said tool members from said first position to said working position.

2. A combination according to claim 1 including a bearing support extending around an end section of said support post and rotatably supporting said support post.

3. A combination according to claim 2 wherein said actuating member includes an elongate rod that is non-rotatably mounted in a central passageway extending along said longitudinal axis of said post.

4. A combination according to claim 3 wherein said actuating member further includes a wedge provided on an upper end section of said elongate rod and having an inclined surface that extends upwardly and radially outwardly relative to a central longitudinal axis of said rod and wherein each tool member has an inclined end surface adapted for engagement with the inclined surface of said wedge when the respective tool member is pivoted towards its working position by said actuating member.

5. A combination according to claim 1 wherein said post is formed with a plurality of elongate, longitudinally extending recesses, one for each of said

tool members, whereby each tool member lies substantially within its respective recess in its first position.

6. A combination according to claim 2 including a gear assembly for rotating said post about its longitudinal axis, said gear assembly including a gear fixedly mounted on said end section of the support post and extending around said end section.

7. A combination according to claim 6 including a servomotor operatively connected to said gear assembly and capable of rotating said gear, said servomotor being rigidly mounted on a gear housing apparatus in which said gear assembly is mounted.

8. A combination according to claim 3 including a pneumatic cylinder-type actuator having a movable pusher rod connected to said elongate rod mounted in said central passageway, said actuator including a pneumatic cylinder fixedly mounted on a support plate below said support post.

9. A combination according to claim 3 wherein said elongate rod has a central longitudinal air passageway formed therein and extending to an end section of said elongate rod located where said tool members are attached to said post, said air passageway being connectible to a source of pressurized air which is deliverable to a cavity formed in an end section of said support post, which surrounds said end section of the elongate rod, during use of said post assembly, the delivery of pressurized air providing positive air pressure in said cavity in order to keep chips and debris out of said cavity.

10. A combination according to claim 3 wherein said plurality of tool members comprises six different tool members each capable of carrying out a different machine operation.

11. A combination of support post assembly and tool members, said combination capable for providing a selected tool member from a plurality of

tool members and for using said tool member in a machine operation, said combination comprising:

- a support post adapted for rotation about a longitudinal axis of said post, which extends vertically during use of said post from a bottom end to a top end thereof;

- a plurality of tool members each having a first end section and a second end section and each pivotally attached at said first end section to said post in the vicinity of said top end thereof, each tool member being capable of pivoting from a first position used for storage to a working position where the selected tool member extends substantially radially outwardly from the support post;

- a linearly movable actuating member for selectively pivoting any one of said tool members from said first position to said working position, said actuating member being movably mounted in said support post;

- a bearing support arrangement for supporting said support post for rotation about said longitudinal axis of said post; and

- a power drive system operatively connected to a lower section of said support post and capable of rotating same about its longitudinal axis during use of said combination.

12. A combination according to claim 11 wherein said actuating member includes an elongate rod extending through a central axial passageway formed in said support post and linearly movable therein.

13. A combination according to claim 12 including a linear actuator connected to a lower end section of said elongate rod and adapted to move said elongate rod either upwardly or downwardly relative to said support post.

14. A combination according to claim 12 wherein said actuating member further includes a wedge member mounted on an upper end section of said elongate rod and having an inclined surface that extends upwardly and radially outwardly relative to a central longitudinal axis of said rod and wherein each tool member has a first end surface on said first end section, this end surface being inclined relative to a central longitudinal axis of the

respective tool member and being arranged for firm engagement with said inclined surface of said wedge member when the respective tool member is pivoted to its working position.

15. A combination according to claim 11 wherein said power drive system includes a gear assembly, including a bevel gear rigidly mounted on and extending around said support post, and a servomotor having an output shaft operatively connected to said gear assembly and capable of driving same in order to rotate said support post.

16. A support apparatus for a plurality of tool members capable of holding a selected one of said tool members for a machine operation, said support apparatus comprising:

- a support post adapted for rotation about a longitudinal axis of said post, said support post having an upper section adapted for pivotably supporting said plurality of tool members and a lower section;

- a linearly movable actuating member for selectively pivoting any one of said tool members from a first position used for storage to a working position where the selected tool member extends substantially radially outwardly from the support post, said actuating member being movably mounted in said support post;

- a bearing support arrangement rotatably supporting said support post for rotation about said longitudinal axis of the post, said support arrangement engaging said lower section of the support post; and

- a power drive system operatively connected to said lower section of said support post and capable of rotating said support post about its longitudinal axis.

17. A support apparatus according to claim 16 wherein said actuating member includes an elongate rod extending through a longitudinal passageway formed in said support post and a wedge member mounted on an upper section of said elongate rod and having an inclined surface that extends upwardly and radially outwardly relative to a central longitudinal axis of said rod, said inclined surface being arranged to engage a co-operating

surface formed on a selective one of the tool members in order to hold the selected tool member in an operating position during use of said support apparatus.

18. A support apparatus according to claim 17 including a linear actuator operatively connected to a lower end section of said elongate rod and adapted to move said elongate rod selectively upwardly or downwardly relative to said support post.

19. A support apparatus according to claim 18 wherein said power drive system includes a gear assembly, including a bevel gear rigidly mounted on and extending around said support post, and a servomotor having an output shaft operatively connected to said gear assembly and capable of driving same in order to rotate said support post.

20. A tool device for mounting in a tool supporting assembly for use in a machine operation, said tool device comprising:

a tool head suitable for carrying out said machine operation;

an elongate tool holder having opposite first and second end sections, said first end section being adapted to rigidly support said tool head, said second end section having a flat end surface extending at an acute angle to a central longitudinal axis of said tool holder and a recess formed on one side thereof to accommodate pivotal movement of said tool device; and

means for forming a pivot axis located at said second end section, said pivot axis extending transversely relative to said central longitudinal axis.

21. A tool device according to claim 20 wherein said tool head is detachably connected to said tool holder by means of at least one threaded fastener.

22. A tool device according to claim 20 wherein said pivot axis forming means includes a transversely extending hole formed in said second end section of the tool holder and a pivot pin adapted to fit snugly in said hole.

23. A tool device according to claim 20 wherein said flat end surface extends from one side of tool holder to an opposite side thereof and extends at an acute angle ranging between 8 and 10 degrees to a plane extending perpendicular to said central longitudinal axis.